UNITED STATES PATENT AND TRADEMARK OFFICE

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10/666,515	09/18/2003	Mikhail A. Dmitriev	SUN-P9376-SPL	9178

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>24 September 2007</u>.

2a)☒ This action is **FINAL**. `2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-10 and 12-16* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-10 and 12-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to amendment filed on 9/24/2007.

2.   Per Applicant's request, claims 1 and 9 have been amended.

3.   Claims 1,2, 4-10, 12-16 remain pending..

Specification

4.   The disclosure is objected to because of the following informalities:

The disclosure is objected to because it contains an embedded hyperlink and/or

other form of browser-executable code. Applicant is required to delete the embedded

hyperlink and/or other form of browser-executable code. See MPEP § 608.01. For

example, page 4 line 13 contains a hyperlink. The amendment to the specification still

contains a hyperlink "www.jcp.org/jsr/detail163.jsp".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention. ,

5.   Claims 1, 2, 4-10, 12-16 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention. Claims 1 and 9 recite the limitation of

"measuring a time for executing instrumented portions of the code; and subtracting the

overhead time from the measured time to obtain the time for the code to be profiled."

The time being subtracted from is the time for executing instrumented portions of the

code. It appears the result of such subtraction does not necessarily result in the

(execution) time for the code to be profiled. What is being claimed is not consistent with

the specification. See, specification, for example, [0009]. Claims 2, 4-8 depend on

claim 1 and claims 10, 12-16 depend on claim 9 and suffer the same deficiency.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or
> described as set forth in section 102 of this title, if the differences between the subject
> matter sought to be patented and the prior art are such that the subject matter as a
> whole would have been obvious at the time the invention was made to a person having
> ordinary skill in the art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

6.   Claims 1,2, 4-10, 12-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Beck et al. (USPGPub. NO. 2002/0049963) in view of Almy et al. (US Patent No. 6,609,216),

and further in view of Hall (US Patent No. 5,828,833).

As per claim 1,

Beck et al.

-   receiving a code to be profiled; inserting the profiling instrumentation code in

    the code; executing the code including the instrumented portions of the code

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([0087]: 8-9, "…can effect any desired instrumentation

function, recording date and time…"; line 17, "…measure the

time required for… the …method");
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Beck et al. do not specifically disclose

- Measuring an overhead time, wherein the overhead time is the time required to

   execute profiling instrumentation code in isolation measured through a calibration

   procedure, and wherein the calibration procedure involves executing the

   instrumentation code for a number of times.

However, Almy et al. disclose

- Measuring an overhead time, wherein the overhead time is the time required to

   execute profiling instrumentation code in isolation measured through a calibration

   procedure, and wherein the calibration procedure involves executing the

   instrumentation code for a number of times (c3: 37-59, "…repetitively

   ```
   performs…test sequence…the final test case sequence

   contains no control instruction test points…" where when

   there is no control instruction test points is the

   overhead;  c4: 27-30, "…a desired number of

   repetitions…suggests that one thousand repetitions are

   effective.." ).
   ```

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the

invention was made to incorporate the teachings of Almy et al. into the teachings of Beck et al.

to include Measuring an overhead time, wherein the overhead time is the time required to

execute profiling instrumentation code in isolation measured through a calibration procedure,

and wherein the calibration procedure involves executing the instrumentation code for a number

of times. The modification would be obvious to one of ordinary skill in the art to want to measure performance of code sequences as suggested by Almy et al. (c2:8-12).

Beck et al. and Almy et al. do not specifically disclose

- measuring a time for executing instrumented portions of the code; and

  subtracting the overhead time from the measured time to obtain the time for the

  code to be profiled.

However, Hall discloses

- measuring a time for executing instrumented portions of the code; and

  subtracting an overhead time for the profiling instrumentation code from the

  measured time to obtain the time for the instrumented portions of the code,

  wherein the overhead time is determined by executing the profiling

  instrumentation code without executing any instrumented code (c6:55-65, In

  this example, resources of interest are primarily resources

  whose total consumption for the execution of the program is

  equal to the sum of resource consumption in each individual

  procedure. Those resources called "monotonic resources"

  are defined as being of the type for which there is a

  measurement primitive, such as a clock, which returns a

  number proportional to the amount of the given resource

  that has been used since an arbitrary zero point. The

  amount of the resource used by a given program (or

  procedure) is then the difference between the clock value

  immediately after the program execution and the clock value

  immediately before the program execution, minus any

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overhead clock ticks caused by the calls to the clock

itself." The fact that the overhead ticks is available for

subtraction shows the overhead ticks is measured

independently by measuring the calls to the clock, which is

the profiling instrumentation code.)
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Therefore, it would have been obvious to a person of ordinary skill in the art at the time

the invention was made to incorporate the teachings of Hall into the teachings of Beck

et al. and Almy et al. to include overhead time is determined by executing the profiling

instrumentation code without executing any instrumented code. The modification would

be obvious to one of ordinary skill in the art to want to measure performance of and

optimizing software programs as suggested by Hall (c1: 10-13).

As per claim 2,

the rejection of claim 1 is incorporated;

Beck et al. disclose

- the code includes platform- independent Java bytecodes ([0097], "The

  modification of instructions including bytecode…").

As per claim 4,

the rejection of claim 3 is incorporated;

Almy et al. disclose

- the profiling instrumentation code is executed multiple times to determine an average value for the overhead time (c3: 53-54, "...repeated a number of times...").

As per claim 5,

the rejection of claim 4 is incorporated;

Beck et al.

- wherein the profiling instrumentation code includes method entry code that takes a first time measurement at the beginning of a method, and method exit code that takes a second time measurement at the end of the method, wherein the first and second time measurements are used to calculate an execution time for the method ([0087], "...any desired instrumentation...e.g., recording of date and time of its invocation....before and/or after explicitly invoking ...").

As per claim 6,

the rejection of claim 5 is incorporated;

Almy et al. disclose

- determining the overhead time involves calculating an inner time $t_i = x_2 + y_1$, wherein y_1 is the time between when the first time measurement is taken and when the method entry code is finished executing, and wherein x_2 is the time between when the method exit code begins executing and when the second time measurement is taken (c2: 23-49).

As per claim 7,

the rejection of claim 6 is incorporated;

Almy et al. disclose

- wherein the time t_{exact} for executing instrumented portions of the code is

  calculated as $t_{exact} = t_{meas} - t_I$ (c2: 23-49).

As per claim 8,

the rejection of claim 7 is incorporated;

- wherein if the method makes m calls to other methods, the time for executing

  instrumented portions of the code $t_{exact} = t_{meas} - t_I - mt_o$, wherein the outer time, t_o

  $= x_1 + y_2$, wherein x_1 is the time between when the method entry code begins

  executing and when the first time measurement is taken, and wherein y_2 is the

  time between when the second time measurement is taken and when the method

  exit code is finished executing (c2: 23-49).

As per claims 9-10, 12-16, they are the computer-readable medium claims corresponding to

method claims 1-2, 4-8 respectively and are rejected for the same reason set forth in connection

of the rejection of claim 1-8 above.

Response to Arguments

Further, in the remark,

1) The applicant argues:

Beck, does not suggest measurement.

1) The examiner's response

See Beck, [0087], lines 10-13, "...recording the date and time...setting timer...".

Regarding, the applicant's arguments that there is nothing in Beck, Almy and Hall that teaches calibrating the executing time of the instrumentation code in isolation. Please refer to the rejection of claim 1 in this office action.

Conclusion

THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
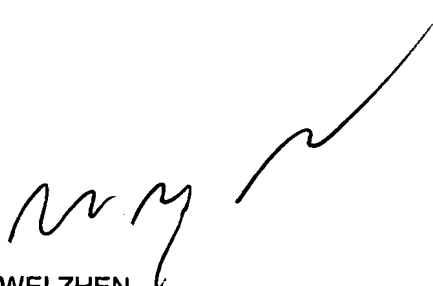
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Wang whose telephone number is 571-272-5934. The examiner can normally be reached on Mon - Fri 8:00 - 4:00PM. Any inquiry of general nature or relating

to the status of this application should be directed to the TC2100 Group receptionist: 571-272-2100.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Zhen can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WEI ZHEN
SUPERVISORY PATENT EXAMINER